# Dr Joe: Pioneer of Public Health Initiatives for Immigrant Mothers and Children

| Excerpted from Baker, S. Josephine, "The Baby." Chapter VII in *Child Hygiene*. New York, NY: Harper & Brothers Publishers, 1925.

## THE REDUCTION OF INFANT MORATALITY

**ANY PROGRAM FOR THE** reduction of infant mortality, to be effective, must be directed toward the reduction of infant morbidity, or illness. We have seen how many and complex are the factors in living that affect the health and well-being of babies. An attempt to reduce the baby death rate by the simple expedient of treating sick babies is, of course, of little account. One need not underestimate the importance of proper treatment when making such a statement as this. It is necessary that sick babies should receive the very best of medical and nursing attention. Pediatrics has made rapid advances in the past twenty years. Our knowledge of infant feeding and of the treatment of the diseases of babies and children has progressed to the point where we may almost call it an exact science. However, the fact remains that we cannot expect any marked reduction in the baby death rate without a proper adjustment of the many social, economic, and sanitary problems that we have discussed . . . and added to these must be an intelligent use of what we call "public health education."

Summing up the forces which cause infant mortality in a way that they may be used as a background for our programs for prevention of baby sickness and death, we may consider the two groups who control these forces and who therefore must take part in their proper adjustment. First, we have the community as a whole. Here we must fix the responsibility for decent housing, proper sewage disposal, a safe and pure milk and water supply, opportunities for outdoor recreation, proper living conditions, and the adjustment of economic forces so that they will provide a living wage for all families. Second, we have the individual father and mother, who must be taught to make use of the community resources and to so apply them in their own family that their baby may receive the greatest degree of protection and be assured of good health.

The death rate as a whole in all countries has shown a marked reduction in the last fifty years. Generally speaking, this reduction has been progressive, although the occurrence of epidemics at certain times has been reflected in slight increases which were corrected, once the epidemic had subsided. The infant mortality rate has shown a similar reduction . . . the infant death rate from diarrhoeal diseases has declined in New York City during the period from 1885 to 1920, inclusive. A capable and far-reaching analysis of the reduction in the infant death rate in New York City, extending over a period of over thirty years, has been compiled by Ernst Christopher Meyer, of the International Health Board. No other studies of this extent have been found available, but it is probable that the decline in the infant death rate in New York City has been the result of factors quite similar to those responsible for a like decline in other cities, towns, or rural communities.

The influence manifested during the first decade, as shown by these statistics, was one that mainly pertained to improved sanitation.

Reference has been made to the fact that the infant is exceedingly sensitive to his environmental condition. Any improvement in environment will be reflected in a lower death rate. The decline in the infant death rate, therefore, during the decade in question [1885–1895], would seem to have been the result of the improvement in the social, economic, and sanitary conditions that have so definite an effect upon the welfare of all individuals. At the end of this decade the effect of this improved sanitation seemed to have reached its climax. Whatever imprint such improved conditions might make upon the infant death rate had been made, and it could no

longer be expected that this decline would continue without the introduction of some new factor.

At this time, or about 1898, the city of New York began a widespread program to (a) improve the water supply, and (b) improve all of the conditions surrounding the provision, distribution, and care of the milk supply. There can be no question that the assumption by the health authorities at this time of all responsibility for the type of milk to be sold within the city limits was a further impetus for the reduction of the baby death rate. The tendency toward pasteurization of the milk supply, which had been urged by Nathan Straus since 1893, was rapidly becoming a necessity, owing to the impossibility of controlling the sources of the milk supply of so large a city.

**Decrease in the Infant Death Rate in the United States Birth-registration Area**—For the period 1916 to 1923 inclusive there was a marked decrease in the infant death rate in the birth-registration area. In 1916 the infant death rate was 101; in 1917, 94; in 1918, 101; 1919, 87; 1920, 86; 1921, 76; 1922, 76; 1923, 75.6. This represents a decrease of approximately 25 per cent in the eight-year period. A detailed analysis of this decline in the infant mortality rate in the birth-registration area covering the period 1915 to 1920, inclusive, has been made by Robert Morse Woodbury, PhD, Director of Statistical Research of the United States Children's Bureau, who published an article on this subject in the *American Journal of Public Health* for May, 1923.

For the next decade, that is, from 1898 to 1908, a marked reduction occurred in the infant death rate, due, without question, to this provision of safer milk supply for babies. At the end of this period, however, the same tendency was observed that had been found in the previous decade—that is, the baby death rate seemed to have reached a minimum level, and it was evident that no great reduction could be expected for the future as the results of a safe, sanitary, or improved milk supply.

At this time (1908) the Bureau of Child Hygiene in New York City was organized and an intensive program for the education of mothers was begun. This was carried on by the use of visiting physicians, nurses, and, within a few years, baby health stations. The keynote of this organization was, and is to-day, educational.

As might have been expected, this new force brought about another sharp decline in the infant death rate. During the past few years there has again been a tendency for this decline to become static. It is probable that any further great reduction in the infant death rate must come about through the introduction of methods for lowering the death rate for congenital diseases. In other words, over 40 per cent of the baby death rate now occurs during the first month of life. That this may be reduced from one third to one-half has been proved many times. The value of further efforts in this direction would, therefore, seem obvious.

As further indication of the value of organized work for the prevention of infant mortality in a community, the statistics of New York City for the period from 1902 to 1923 inclusive may be taken. This decline may be viewed at five-year intervals: 1902 infant death rate, 181; 1907—160; 1912—105; 1917—88.8; 1922—72.3; 1923—66.4.

Since 1907 the baby death rate in New York City has been reduced 54 per cent—from 144 in 1907 to 66 in 1923 per 1,000 reported births. Since 1902, or during the period of the past twenty-one years, this rate has been reduced practically two-thirds. These figures are given simply as an indication of what may be accomplished as a result of organized child-hygiene work. The prophecy made by many child-welfare workers at

**Sara Josephine Baker (courtesy of the National Library of Medicine)**

the time this work was commenced, to the effect that it was reasonable to expect that the baby death rate might be cut in half, has been shown to be a comparatively simple achievement. A reduction of two-thirds has been accomplished, and if such a reduction can be shown in a city like New York, under the most adverse conditions obtaining anywhere in the United States, it may reasonably be expected that such a record should be excelled by practically any community, whether urban or rural, in this or any other country.

It may be noted here that the reduction in the infant death rate in New York City has not resulted in the survival of the unfit. The statistics as to the decreasing mortality in the older age groups of childhood bears out Doctor Holt's statement that "it is not the unfit, but the unfortunate, baby that dies." During the period from 1909 to 1923 the reduction in the infant mortality rate in New York City was 52 per cent. The reduction of the death rate between one and two years was 74 per cent and between two and five years 61 per cent. The total reduction in the death rate under five years was 60 per cent. This would seem to be clear evidence that the methods used for the reduction of the baby death rate resulted not only in the saving of life during the first year, but in the assurance of such sound health and physical resistance to disease that a continued decrease was shown in the death rates of the older age groups, notwithstanding the comparatively minor efforts that were directed toward improving the health of the child between the period of infancy and the period of school life. ■

# Sara Josephine Baker (1873–1945)

Sara Jospehine Baker, MD, DrPH, was the first director of New York's Bureau of Child Hygiene and an instrumental force in child and maternal health in the United States. A lesbian and a feminist, Baker was also a suffragist and a member of the Heterodoxy Club, a radical discussion group made up of more than 100 women, where she was known as "Dr Joe."[1] To succeed in the male-dominated world of public health administration, she minimized her femininity by wearing masculine-tailored suits and joked that colleagues sometimes forgot that she was a woman. Whether her sex was accounted for or set aside, it is doubtless that Baker faced gender discrimination and the same obstacles to a high-profile career that confronted women physicians throughout the medical profession in the early 20th century.[2]

In contrast to many of her colleagues' emphasis on laboratory-based public health, Baker focused on preventive health measures and the social context of disease. Her work with poor mothers and children in the immigrant communities of New York City had a dramatic impact on maternal and child mortality rates and became a model for cities across the country as well as the United States Children's Bureau, established in 1912.

Sara Josephine Baker was born in 1873 in Poughkeepsie, New York, to Daniel Mosher Baker, a lawyer, and Jenny Harwood Brown. In her autobiography, *Fighting for Life*,[3] Baker recalled a happy childhood and a good and supportive relationship with both her parents. Her mother was one of the first graduates of Vassar College, and Baker was raised with the expectation that she would also attend the college, but her plans changed when her father and brother died suddenly. Newly responsible for the family's finances, she gave up her scholarship and applied to medical school instead. In 1894, Baker enrolled at the Woman's Medical College of the New York Infirmary, originally founded by pioneering physician Elizabeth Blackwell and her sister Emily Blackwell. While associating with the first generation of women to attend medical school, Baker was introduced to some powerful female role models, including faculty member Mary Putnam Jacobi. After graduating in 1898, Baker negotiated a year's internship at the New England Hospital for Women and Children in Boston, where she worked at an out-patient clinic serving some of the city's poorest residents. She developed a keen interest in the connection between poverty and ill health, which led her to a commitment to social medicine that would shape the rest of her career.

Baker opened a private practice in New York in 1899 with a friend she had met during her internship, but the 2 women struggled to make just $185 in the first year. To help cover costs, they also worked as medical examiners for the New York Life Insurance Company, paving the way for women physicians to work in the insurance industry. Baker also worked part time as a medical inspector for the city, where she met key health administration officials. In 1907, Dr Baker was appointed assistant commissioner of health, and managed smallpox vaccination programs and sanitation issues, as well as the notorious case of "Typhoid Mary," the cook who had unknowingly spread typhoid in the city while working in several New York households.[4]

In 1908, Baker was appointed director of the city's new Bureau of Child Hygiene, the first such bureau in the United States. Building on her previous work on disease prevention and education, she developed programs on basic hygiene for immigrants living in slum neighborhoods and the Little Mothers Leagues, which trained young girls who were responsible for the care of their siblings (while their parents went out to work) on the basics of infant care. Alongside baby health stations that distributed milk and midwife training and regulation, she created policies that had an enormous impact on maternal and infant mortality. Thirty-five states implemented versions of her school health program. By the time Baker retired in 1923, New York City had the

lowest infant mortality rate of any major American city.[5(p33)]

Baker founded the American Child Hygiene Association in 1909 and served as president of the organization in 1917. That same year, she became the first woman to earn a doctorate in public health from the New York University and Bellevue Hospital Medical College (later the New York University School of Medicine). From 1922 to 1924, she served as a member of the Health Committee of the League of Nations and as a consultant on child hygiene to The New York State Department of Health, the US Department of Labor, and the US Public Health Services. Dr Baker wrote 50 journal articles and more than 200 pieces for the popular press about issues in preventive medicine, as well as five books: *Healthy Babies* (1920),[6] *Healthy Mothers* (1920),[7] *Healthy Children* (1920),[8] *The Growing Child* (1923),[9] and *Child Hygiene* (1925) (extracted here). She retired to New Jersey with her life partner, novelist Ida Wylie, and another woman physician, Louise Pearce, in the mid-1930s, where they shared a house until Baker's death in 1945. ■

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*This article was accepted September 23, 2005.*

*doi:10.2105/AJPH.2005.079145*

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